Software Requirements Specification

for

Waste Management System Software(WMS)

Version 1.0 approved

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18th January 2018

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Revision History:

Date	Description	Author	Comments
18th January 20018	WMS SRS Version – 1	Sai Saketh Aluru	First draft

1. Introduction:

A lot of places around us are cleaned and maintained regularly. But sometimes, due to unforseen reasons like water logging, they may need to be cleaned as early as possible. This calls for the need of a software to enable the users to have quick access to lodge complaints and for the workers to easily diagnose and solve them. The “Waste Management System Software” serves this purpose.

1.1 Purpose:

The purpose of developing this software is to enable users to file complaints and request for maintanence of some common issues related to plumbing, etc. After the complaint is noted from the user, the nearest available worker based on location is notified of the issue.

1.2 Document Conventions:

In the document henceforth, the “user” refers to the person using the software to lodge the complaint and the “worker” refers to the person who would be assigned the job of maintainence for the issue.

1.3 Intended Audience and reading suggestions:

This document is for the reference of the project developers, testers, managers and the users. This document describes the functional and non-functional requirements for the Waste Management Software.

1.4 Project Scope:

The Waste Management software has tremendous use in urban areas and large towns. It speeds up the communication between the person(s) facing the issue and the worker(s). This software can easily and efficiently manage and meet the demands of its users by locating the nearest available worker apt for the issue and informing him about the details of issue before hand.

2. Overall Description:

2.1 Product Description:

- The user must be able to input details regarding the issue being addressed like location, problem desciption, the tools that might be required by the worker, etc. Also there should be an option to specify the priority of the issue.
- Also the user must input his/her details like name, phone number, etc while lodging the issue for further communincation with the worker if required.
- The workers or the organisation maintaining the working staff, must login into the software to view the current problems addressed to them. They should be able to view the problem details, location and additional requirements.

2.2 Operating Environment:
The software is an online portal that can be accessed through an internet connection.

2.3 Design and implementation constraints:
- The software will be able to hold a maximum of 200 requests at any time. Beyond this, further requests will not be accepted till the existing ones are cleared.
- The database of workers can hold upto 500 worker details at any time.
- The user inputs like name, issue description, etc can take a maximum upto 100 characters each.

2.4 Assumptions and dependencies:
The assumptions made during the development or deployement of the software is that the user updates only true/genuine issues with proper details. Also the workers or their organisations are willing to continuosly update their location and schedule details.

3. External Interface Requirements:

3.1 User Interface:
- The interface contains on option to either enter the user portal or the worker portal.
- The user portal contains various fields for entry of problem details, location, etc, and option to post the complaint.
- The worker portal contains a login screen for the workers. After the worker has logged in, he will be notified of the details of any new issues that have come up and of the pending requests that are assigned to him.

3.2 Hardware Interface:
- The problem stated by the user is processed in the hardware based on the real time worker details available from the database.

3.3. Software Interface:
- The database containing the details of the workers is maintained with real time data online and can be updated via the worker portal.

3.4 Communication requirement:
- The complaint is noted and processed by accessing the database of workers online through an internet connection.
- The worker assigned to a particular issue is notified by either phone or by an email if available.

4. System Features:
The system first prompts the person to chose whether he is a user or a worker.

4.1 Take complaint from user:

The software should have specific fields to take inputs regarding the issues which are name of the user, location, service type(plumbing, sweeping, etc), description of the issue, any special tools that might be required by the worker, priority level of the problem.

Input:

1. Name of the user.
2. Dropdown list of services: Plumbing, sweeping, electrical, civil.
3. Location of the problem.
4. Brief description
5. Tools that might be needed
6. Contact information of the user.

4.2 Worker login portal:

The worker portal of the software requires prior registration and login by the worker. Registration of the worker requires details of his name, type of work done by him (like plumbing, etc), area of working, etc. A unique username and password can be used as authentication during the login.

Input:

1. Ask for login or registration.
2. For new registration, take in the details of the worker
   Name,
   Type of work that he does,
   Area of working,
   Contact information,
   Chosen username (should be unique)
   Chosen password.
   Captcha for authentication.
3. For existing users, username and password are checked with existing data and verified. If correct, proceed to portal. Else prompt to type again.

4.3 Worker job reviewal:

After loging into the software, the worker should be able to see the pending jobs that are assigned to him, their locations,and other details that are provided by the user.

Input:

1. Option to view the existing jobs to be done by him.
2. Mark as certain work to be completed.

Output:

List of maintenance work descriptions alloted to him.

4.4 Job assignment:

When a problem is recorded from a user, the software should be able to look for the workers in nearby locations, check for their schedules from the database, and then assign them to that particular job in their free time. The details of the job should be notified to the worker, and the details of the assigned worker should be assigned to the user. In the event of no available worker nearby, the same should be conveyed to the user as well.

Input:

Complaint by the user in specified format (Section 4.1)

Output:

Selected worker details are displayed. The concerned worker is duly informed of the problem.

5. Other non-functional requirements:

5.1 Performance Requirements:

The software should be fast and accurate in allocating the worker to a job. It should maintain the real time database and have continuous access to it.

5.2 Maintainability:

The database of the software needs to be maintained up to date at all times. Any new additions or changes in worker details should be included into the software properly.

6 . Tentative Development Schedule:

Design :	3 weeks
Coding and unit testing:	4 weeks
System testing:	3 weeks